

What is claimed is:

1. A method of controlling free space distribution by key range within a database, the method comprising:

5 creating a data structure, wherein said data structure comprises key ranges of a plurality of database tables and indexes, and free space parameters associated with said key ranges;

redistributing rows within a plurality of page sets of the plurality of database tables and indexes, wherein said redistributing references the key ranges of the data structure and
10 the free space parameters associated with said key ranges.

2. The method of claim 1, wherein the plurality of page sets comprise one or more of: a file page set, or an index page set.

15 3. The method of claim 1, wherein the key ranges comprise a low key value and a high key value for each of the plurality of database tables and indexes.

4. The method of claim 1, wherein the free space parameters associated with said key ranges comprise one or more of: a free page value, a free pages value, a percent
20 free value, an end of key range number of free pages value, or a maximum number of rows value for each of the plurality of database tables and indexes.

5. The method of claim 4, wherein the free space parameters associated with said key ranges are user specified.
25

6. The method of claim 4, further comprising:
using growth trend analysis to automatically generate the free space parameters associated with said key ranges;

wherein the growth trend analysis is based on key range growth statistics.
30

7. The method of claim 4, wherein the data structure further comprises:
a plurality of key ranges of the plurality of database tables and indexes, and a
plurality of free space parameters associated with said key ranges;
wherein one or more time values are associated with said plurality of free space
5 parameters.

8. The method of claim 7,
wherein said one or more time values further comprises a starting time value;
wherein said plurality of free space parameters are active beginning at a starting time
10 represented by the starting time value.

9. The method of claim 8,
wherein said one or more time values further comprises an ending time value;
wherein said plurality of free space parameters are active during a time frame
15 beginning with a starting time represented by the starting time value and ending with an
ending time represented by the ending time value.

10. A method of monitoring growth within a database, the method comprising:
creating a data structure wherein said data structure comprises key ranges of a
20 plurality of database tables and indexes;
gathering statistics regarding key range growth for the plurality of database tables
and indexes over a user-defined time period;
analyzing the statistics;
associating free space parameters with said key ranges in response to said analysis of
25 the statistics.

11. The method of claim 10, further comprising:
a reorganization process redistributing rows within a plurality of page sets of the
plurality of database tables, wherein said redistributing references the key ranges of the data
30 structure and the free space parameters associated with said key ranges.

12. The method of claim 11, wherein the plurality of page sets comprise one or more of: a file page set, or an index page set.

13. The method of claim 10, wherein the key ranges comprise a low key value and a high key value for each of the plurality of database tables and indexes.

14. The method of claim 10, wherein the free space parameters associated with said key ranges comprise one or more of: a free page value, a percent free value, or a maximum number of rows value for each of the plurality of database tables and indexes.

15. The method of claim 14, wherein the data structure further comprises:
a plurality of key ranges of the plurality of database tables and indexes, and a plurality of free space parameters associated with said key ranges;
wherein one or more time values are associated with said plurality of free space parameters.

16. The method of claim 15,
wherein said one or more time values further comprises a starting time value;
wherein said plurality of free space parameters are active beginning at a starting time represented by the starting time value.

17. The method of claim 16,
wherein said one or more time values further comprises an ending time value;
wherein said plurality of free space parameters are active during a time frame beginning with a starting time represented by the starting time value and ending with an ending time represented by the ending time value.